

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 06-082777

(43)Date of publication of application : 25.03.1994

(51)Int.Cl.

G02F 1/1335

(21)Application number : 04-238282

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(22)Date of filing : 07.09.1992

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## (54) LIQUID CRYSTAL DISPLAY DEVICE

### (57)Abstract:

**PURPOSE:** To easily manufacture a large size liquid crystal display device (homeotropic type) excellent in visual angle characteristic by using a phase difference film using an inorganic layered compound layer as a compensating phase difference film.

**CONSTITUTION:** A liquid crystal display device formed of a liquid crystal cell having a nematic liquid crystal molecule provided with negative dielectric constant anisotropy, the liquid crystal cell being nipped by a pair of transparent bases having electrodes and held in parallel to each other in the state where the electrodes are mutually opposed, and having the structure in which the liquid crystal molecule long axis is oriented optically to the transparent bases in the state where no voltage is applied; a pair of linear polarizing films arranged on the outside of the liquid crystal cell; and a compensating phase difference film arranged in at least one space between the liquid crystal cell and the linear polarizing films. As the compensating phase difference film, a phase difference film using an inorganic layered compound layer in which the refraction factor in the film surface is larger than the refraction factor in the thickness direction. In the manufacture of the phase difference film, an optically transparent resin is preferably mixed to the inorganic layered compound.

## LEGAL STATUS

[Date of request for examination] 01.09.1999

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number] 3206133

[Date of registration] 06.07.2001

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]